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<u>L16</u>	L15 and anti-digoxigenin	3	<u>L16</u>
<u>L15</u>	l13 and (attach\$2 or immobiliz\$7)	30	<u>L15</u>
<u>L14</u>	L13 ad immobiliz\$7	0	<u>L14</u>
<u>L13</u>	oligonucleotide\$1 near5 solid near5 antibod\$3	31	<u>L13</u>
<u>L12</u>	L11 and immobiliz\$7	121	<u>L12</u>
<u>L11</u>	(primer\$1 or probe\$1 or oligonucleotide\$1) near5 solid near5 antibod\$3	165	<u>L11</u>
<u>L10</u>	L9 and anti-digoxigenin	11	<u>L10</u>
<u>L9</u>	(primer\$1 or probe\$1 or oligonucleotide\$1) near5 immobiliz\$7 near5 antibod\$3	116	<u>L9</u>
<u>L8</u>	immobiliz\$7 near5 antibod\$3	8824	<u>L8</u>
<u>L7</u>	L6 and (primer\$1 or probe\$1 or oligonucleotide\$1)	2	<u>L7</u>
<u>L6</u>	immobiliz\$7 near5 anti-digoxigenin	2	<u>L6</u>
<u>L5</u>	(primer\$1 or probe\$1 or oligonucleotide\$1) near5 immobiliz\$7 near5 anti-digoxigenin	0	<u>L5</u>
<u>L4</u>	(primer\$1 or probe\$1 or oligonucleotide\$1) near2 immobiliz\$7 near5 anti-digoxigenin	0	<u>L4</u>
<u>L3</u>	L2	0	<u>L3</u>
<u>L2</u>	oligonucleotide near2 immobiliz\$7 near2 anti-digoxigenin	0	<u>L2</u>
<u>L1</u>	(primer\$1 or probe\$1 or oligonucleotide\$1) near5 immobiliz\$7 or anti-digoxigenin	3683	<u>L1</u>

END OF SEARCH HISTORY

End of Result Set☐ **Generate Collection**

L16: Entry 3 of 3

File: USPT

Apr 26, 1994

DOCUMENT-IDENTIFIER: US 5306619 A

TITLE: Screening assay for the detection of DNA-binding molecules

Brief Summary Text (64):

(i) the target oligonucleotide (containing, for example, the screening and test sequences)--modification of the cognate binding site with biotin and incorporation of digoxigenin; capture of the target oligonucleotide using streptavidin attached to a solid support; and detection of the target oligonucleotide using a tagged anti-digoxigenin antibody.

Brief Summary Text (65):

(ii) the target oligonucleotide--modification of the cognate binding site with digoxigenin and incorporation of biotin; capture of the target oligonucleotide using an anti-digoxigenin antibody attached to a solid support; and detection of the target oligonucleotide using tagged streptavidin.

Drawing Description Text (4):

FIG. 3 shows a DNA-binding protein that is able to protect a biotin moiety, covalently attached to the oligonucleotide sequence, from being recognized by the streptavidin when the protein is bound to the DNA.

Detailed Description Text (62):

In this detection system a biotin molecule is covalently attached in the oligonucleotide screening sequence (i.e., the DNA-binding protein's binding site). This attachment is accomplished in such a manner that the binding of the DNA-binding protein to the DNA is not destroyed. Further, when the protein is bound to the biotinylated sequence, the protein prevents the binding of streptavidin to the biotin. In other words, the DNA-binding protein is able to protect the biotin from being recognized by the streptavidin. This DNA:protein interaction is illustrated in FIG. 3.

Detailed Description Text (68):

The streptavidin:biotin interaction can be employed in several different ways to remove unbound DNA from the solution containing the DNA, protein, and test molecule mixture. Magnetic polystyrene or agarose beads, to which streptavidin is covalently attached or attached through a covalently attached biotin, can be exposed to the solution for a brief period, then removed by use, respectively, of magnets or a filter mesh. Magnetic streptavidinated beads are currently the method of choice.

Detailed Description Text (69):

An example of a second method for the removal of unbound DNA is to attach streptavidin to a filter by first linking biotin to the filter, binding streptavidin, then blocking nonspecific sites with a nonspecific protein such as albumin. The mixture is then passed through the filter, unbound DNA is captured and the bound DNA passes through the filter. This method can give high background due to partial retention of the DNA:protein complex on the filter.

Detailed Description Text (71):

Alternatively, avidin-coated agarose beads can be used. Biotinylated agarose beads (immobilized D-biotin, Pierce) are bound to avidin. Avidin, like streptavidin, has four binding sites for biotin. One of these binding sites is used to bind the avidin to the biotin that is coupled to the agarose beads via a 16 atom spacer arm: the other biotin binding sites remain available. The beads are mixed with binding mixtures to capture biotinylated DNA (Example 7). Alternative methods (Harlow et al.) to the bead

capture methods just described include the following streptavidinated or avidinated supports: low-protein binding filters, or 96-well plates.

Detailed Description Text (79):

An alternative to the above biotin capture system is to use digoxigenin in place of biotin to modify the oligonucleotide at a site protected by the DNA-binding protein at the assay site: biotin is then used to replace the digoxigenin moieties in the above described detection system. In this arrangement the anti-digoxigenin antibody is used to capture the oligonucleotide probe when it is free of bound protein. Streptavidin conjugated to alkaline phosphatase is then used to detect the presence of captured oligonucleotides.

Detailed Description Text (188):

Biotinylated agarose beads (immobilized D-biotin, Pierce, Rockford, IL) are bound to avidin by treating the beads with 50 .mu.g/.mu.l avidin in binding buffer overnight at 4.degree. C. The beads are washed in binding buffer and used to capture biotinylated DNA. The beads are mixed with binding mixtures to capture biotinylated DNA. The beads are removed by centrifugation or by collection on a non-binding filter disc.

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☐ 1. 6531283. 20 Jun 00; 11 Mar 03. Protein expression profiling. Kingsmore; Stephen, et al. 435/6; 435/91.1 435/91.2 536/23.1 536/24.3 536/24.32 536/24.33. C12Q001/68 C12P019/34 C07H021/04 C07H021/02.

☒ 2. 6268123. 28 Feb 96; 31 Jul 01. Direct and biochemically functional detection process of retrovirus in biological samples. Faff; Ortwin. 435/5; 435/6 435/7.1 435/7.2 435/7.5 435/7.6 435/7.8 435/7.9 435/7.92 435/91.33 435/961 435/968 435/974 436/525 436/526 436/529 436/531 436/532 436/534. C12Q001/70.

☒ 3. 5306619. 22 Jun 93; 26 Apr 94. Screening assay for the detection of DNA-binding molecules. Edwards; Cynthia A., et al. 435/6; 435/235.1 435/7.21 435/7.23 436/501 536/23.1 536/23.4 536/23.5 536/23.6 536/23.7. C12Q001/68 C12Q001/00 G01N033/566 C07H017/00.

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Term	Documents
ANTI-DIGOXIGENIN	665
ANTI-DIGOXIGENINS	0
(15 AND ANTI-DIGOXIGENIN).USPT,JPAB,EPAB,DWPI.	3
(L15 AND ANTI-DIGOXIGENIN).USPT,JPAB,EPAB,DWPI.	3

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WEST

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Term:

L5 and (end\$1 or termin\$3)

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<u>L6</u>	L5 and (end\$1 or termin\$3)	28	<u>L6</u>
<u>L5</u>	L4 and immobiliz\$7	28	<u>L5</u>
<u>L4</u>	L3 and (phosphorothioate\$1 or phosphoramidate\$1)	54	<u>L4</u>
<u>L3</u>	L2 and (modif\$7 near5 sugar\$1)	54	<u>L3</u>
<u>L2</u>	L1 and (phophorothioate or phosphoramidate)	71	<u>L2</u>
<u>L1</u>	(primer\$1 or probe\$1 or oligonucleotide\$1 or polynucleotide or nucleic acid) near5 chemic\$3 near5 (cleav\$4 or remov\$4)	382	<u>L1</u>

END OF SEARCH HISTORY

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-
- ☐ 1. [6617438](#). 30 Dec 99; 09 Sep 03. Oligoribonucleotides with enzymatic activity. Beigelman; Leonid, et al. 536/23.1; 536/24.5 536/25.1 536/25.3. C07H021/02.
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- ☐ 2. [6613508](#). 22 Jul 97; 02 Sep 03. Methods and compositions for analyzing nucleic acid molecules utilizing sizing techniques. Ness; Jeffrey Van, et al. 435/6;. C12Q001/68.
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- ☐ 3. [6582923](#). 22 Mar 02; 24 Jun 03. Method for analyzing polynucleotides. Stanton, Jr.; Vincent P., et al. 435/6; 435/91.1 536/23.1 536/25.3. C12Q001/68 C12P019/34 C07H021/02 C07H021/04.
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- ☐ 4. [6573048](#). 18 Apr 00; 03 Jun 03. Degradable nucleic acid probes and nucleic acid detection methods. VanAtta; Reuel, et al. 435/6; 435/7.1 435/91.1 435/91.2 536/22.1 536/23.1. C12Q001/68.
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- ☐ 5. [6566059](#). 10 Sep 99; 20 May 03. Method for analyzing polynucleotides. Stanton, Jr.; Vincent P., et al. 435/6; 435/91.1 435/91.2 536/22.1 536/23.1 536/24.3 536/25.3. C12Q001/68 C12P019/34 C07H021/00 C07H021/02 C07H021/04.
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- ☐ 6. [6566055](#). 03 Jun 98; 20 May 03. Methods of preparing nucleic acids for mass spectrometric analysis. Monforte; Joseph A., et al. 435/6; 250/281 435/91.1 435/91.2. C12Q001/68 C12P019/34 H01H021/44 C07H021/04.
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- ☐ 7. [6528640](#). 29 Dec 99; 04 Mar 03. Synthetic ribonucleic acids with RNase activity. Beigelman; Leonid, et al. 536/25.1; 536/23.1 536/24.3 536/24.31. C07H021/02.
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- ☐ 8. [6511810](#). 03 Jul 01; 28 Jan 03. Polynucleotide sequence assay. Bi; Wanli, et al. 435/6; 536/23.1 536/24.3. C12Q001/68 C07H021/02 C07H021/04.
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- ☐ 9. [6500650](#). 05 Sep 00; 31 Dec 02. Method for identifying polymorphisms. Stanton, Jr.; Vince P., et al. 435/91.1; 435/6 435/91.2 536/22.1 536/23.1 536/24.3 536/24.33 536/25.3 536/25.32. C12Q001/68 C12P019/34 C07H019/00 C07H021/00 C07H021/02.
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- ☐ 10. [6482932](#). 28 Apr 99; 19 Nov 02. Nucleoside triphosphates and their incorporation into oligonucleotides. Beigelman; Leonid, et al. 536/23.1; 435/5 536/23.2 536/25.1 536/25.34. C07H021/02 C07H021/04 A61K031/70.
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- ☐ 11. [6480791](#). 26 Oct 99; 12 Nov 02. Parallel methods for genomic analysis. Strathmann; Michael P.. 702/20; 435/6 435/91.2. G01N033/50 G01N033/53 C12Q001/68.
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- ☐ 12. [6458945](#). 09 Nov 00; 01 Oct 02. Method for analyzing polynucleotides. Stanton, Jr.; Vincent P., et al. 536/25.3; 435/6 435/91.1 435/91.2 536/23.1 536/25.32. C12Q001/68 C12P019/34 C07H019/00 C07H021/00 C07H012/02.
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- ☐ 13. [6440705](#). 10 Sep 99; 27 Aug 02. Method for analyzing polynucleotides. Stanton, Jr.; Vincent P., et al. 435/91.2; 435/183 435/6 435/91.1 536/22.1 536/23.1 536/24.3 536/24.31 536/24.32 536/24.33. C12P019/34 C12Q001/68 C07H021/02 C07H021/04.
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- ☐ 14. [6355423](#). 02 Dec 98; 12 Mar 02. Methods and devices for measuring differential gene expression. Rothberg; Jonathan Marc, et al. 435/6; 435/91.2 536/23.1 536/24.3. C12Q001/68 C12P019/34 C07H021/02 C07H021/04.
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- ☐ 15. [6271002](#). 04 Oct 99; 07 Aug 01. RNA amplification method. Linsley; Peter S., et al. 435/91.1; 435/4 435/5 435/6 435/7.1 435/91.2 436/501 536/23.4 536/24.3. C12P019/34.
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- ☐ 16. [6268131](#). 15 Dec 97; 31 Jul 01. Mass spectrometric methods for sequencing nucleic acids. Kang; Changwon, et al. 435/6; 435/91.2. C12Q001/68.
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- ☐ 17. [6232465](#). 07 Jun 95; 15 May 01. Compositions for enzyme catalyzed template-independent creation of phosphodiester bonds using protected nucleotides. Hiatt; Andrew C., et al. 536/26.26; 536/26.7 536/26.71 536/26.72 536/26.73 536/26.74 536/26.8. C07H019/04.
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- ☐ 18. [6214987](#). 07 Jun 95; 10 Apr 01. Compositions for enzyme catalyzed template-independent formation of phosphodiester bonds using protected nucleotides. Hiatt; Andrew C., et al. 536/26.26; 435/89 536/25.3 536/25.31 536/25.32. C07H019/04 C07H019/20.
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- ☐ 19. [6117635](#). 11 Apr 97; 12 Sep 00. Nucleic acid amplification oligonucleotides with molecular energy transfer labels and methods based thereon. Nazarenko; Irina A., et al. 435/6; 435/91.2 536/22.1 536/24.33 536/25.32. C12Q001/68 C12P019/34 C07H021/04 C07H021/00.
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- ☐ 20. [6090552](#). 11 Jul 97; 18 Jul 00. Nucleic acid amplification oligonucleotides with molecular energy transfer labels and methods based thereon. Nazarenko; Irina A., et al. 435/6; 435/91.2 536/24.3 536/24.32 536/24.33. C12Q001/68 C12P019/34 C07H021/04 C12N015/00.
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- ☐ 21. [5990300](#). 02 Sep 94; 23 Nov 99. Enzyme catalyzed template-independent creation of phosphodiester bonds using protected nucleotides. Hiatt; Andrew C., et al. 536/25.3; 536/25.31 536/25.32 536/25.33 536/25.34. C07H001/00.
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- ☐ 22. [5965363](#). 02 Dec 96; 12 Oct 99. Methods of preparing nucleic acids for mass spectrometric analysis. Monforte; Joseph Albert, et al. 435/6; 435/91.2 536/24.3. C12Q001/68 C07H021/02 C12P019/34.
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- ☐ 23. [5872244](#). 07 Jun 95; 16 Feb 99. 3' protected nucleotides for enzyme catalyzed template-independent creation of phosphodiester bonds. Hiatt; Andrew C., et al. 536/26.26; 536/26.6 536/26.7. C07H019/00.
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- ☐ 24. [5866336](#). 03 Jan 97; 02 Feb 99. Nucleic acid amplification oligonucleotides with molecular energy transfer labels and methods based thereon. Nazarenko; Irina A., et al. 435/6; 435/91.2 536/22.1 536/24.3 536/25.32. C12Q001/68 C12P017/34 C07H021/06 C07H021/00.
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- ☐ 25. [5808045](#). 07 Jun 95; 15 Sep 98. Compositions for enzyme catalyzed template-independent creation of phosphodiester bonds using protected nucleotides. Hiatt; Andrew C., et al. 536/26.26; 536/26.7 536/26.71 536/26.72 536/26.74 536/26.8. C07H019/04.
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- ☐ 26. [5763594](#). 07 Jun 95; 09 Jun 98. 3' protected nucleotides for enzyme catalyzed template-independent creation of phosphodiester bonds. Hiatt; Andrew C., et al. 536/25.3; 435/6 536/25.1 536/25.31 536/25.32 536/25.33 536/25.34 536/26.1. C07H021/00 C07H021/02 C07H019/04 C12Q001/68.
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- ☐ 27. [5700642](#). 22 May 95; 23 Dec 97. Oligonucleotide sizing using immobilized cleavable primers. Monforte; Joseph Albert, et al. 435/6; 435/91.2. C12Q001/68 C12P019/34.
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- ☐ 28. [5594136](#). 03 May 95; 14 Jan 97. Texaphyrin solid supports and devices. Sessler; Jonathan L., et al. 540/472; 424/9.322 534/11 534/14 534/15 534/16 540/145 540/474. C07D487/22 C07F015/02.
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